

ABSTRACT OF THE DISCLOSURE

A coder for use in encoding and decoding a data set representing an image includes a first device which partitions the subband transformation into first and second sets, which adds the first set into a list of insignificant sets (LIS), and which initializes a
5 list of significant pixels (LSP), a second device which tests the first and second sets for significance with respect to a threshold value, which partitions significant members of the first and second sets in accordance with first and second partitioning functions, respectively, and which adds significant pixels to the LSP, a third device which refines
10 the quantization of the pixels in the LSP. In operation, the threshold value is decremented as the second and third devices are operation in seriatim until the coding endpoint has been reached. An optional fourth device entropy codes a significance map cooperatively generated by the second and third devices. Methods for encoding and decoding the subband transformation of a data set and a computer program for
15 converting a general purpose computer into a hierarchical image coder are also described.